

# THE MEDICAL AND SURGICAL REPORTER.

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## ORIGINAL DEPARTMENT.

### Communications.

#### REMARKS ON LARYNGOSCOPY.

By EPHRAIM CUTTER, M. D.,

Of Woburn, Mass.,

*At the Medical Clinic of Dr. J. L. LUDLOW, at the Philadelphia Hospital.*

Reported by A. M. Shew, M. D.

It affords me much pleasure, gentlemen, to have an opportunity, by the kindness of your professor, of presenting briefly the subject of laryngoscopy. It is a subject which has of late years attracted the attention of the profession to a degree only equalled by its importance. To you as students of medicine and future practitioners and teachers, it is a practical subject, and should be thoroughly and conscientiously investigated. Strange as it may seem, it was not until the middle of the eighteenth century that the medical profession attempted to discriminate between diseases of the fauces and those of the wind-pipe. This may account for the non-invention of the laryngoscope prior to that period. It is unnecessary for me on this occasion to give a detailed history of the instrument from the time when LEVRET, a distinguished Frenchman, of decided inventive genius, first contrived a curious instrument whereby the nostrils, throat, ears and other parts could be examined.

Even then, as in later years, the discovery was looked upon by the profession with mistrust, and was soon lost sight of; and it was not till more than fifty years later that it again excited attention. Whether its neglect was due to the exaggerated expectations, and subsequent disappointment of the public, or to certain defects in the apparatus, it is now impossible to say.

The elements of laryngoscopy were undoubtedly understood, but a difficulty existed in getting proper instruments. Thanks to the spirit of investigation, which has actuated a few leading men in the profession, we have to-day an instrument so complete and perfect, that by its use we may know the condition of the larynx, vocal cords,

and all the surrounding parts. To properly understand the subject you should diligently study the laws relating to light. When we wish to inspect a tube or passage bent upon itself, by remembering that law in physics which teaches that the angle of reflection is equal to the angle of incidence, we may place a mirror in the passage when it is bent upon itself in such a way that the luminous rays falling on it are projected into the cavity; at the same time the image of the interior is formed on the mirror, and reflected back to the eye of the observer.

The whole apparatus is comprised of a combination of these two elements—reflection and illumination.

Here upon the table you observe the laryngoscope. It consists of two mirrors—a small one, from half an inch to an inch in diameter, to be placed back in the fauces; and a large, plain or concave mirror used for the purpose of reflecting and concentrating the rays of the sun or artificial light upon the small mirror after it is placed in position. These mirrors may be made of various materials, but the best of all are of glass, backed with amalgam. The circular laryngeal mirror causes the least irritation in the throat, and should be attached to the handle, so that the latter forms with it an angle of about 120°. The stem of the mirror slides into a hollow wooden handle, and is fixed there by a screw. By this arrangement it may be made shorter or longer according to circumstances.

For purposes of illumination solar light is by far the most desirable; but we are sometimes obliged to resort to artificial lights. The common burning gas or argand lamp will answer the purpose admirably. When solar light is made use of, the surface of the reflecting mirror should be plain. Before passing, permit me to observe that the employment of a reflector is not absolutely necessary for throwing a light into the laryngeal mirror, and especially when the luminous rays from the sun are made use of.

I have now given you a brief description of the laryngoscope and its history, and will next speak of the practice of the art. You will at first find great inconvenience arising from the inability of the patient to keep his tongue pro-

truded, and of allowing the laryngeal mirror to remain quietly in the pharynx. This may be overcome by having the patient apply his finger, or some other smooth body, to the posterior portion of the throat occasionally during the twenty-four hours. In a little while the palate becomes accustomed to the feeling, and will allow any smooth substance to remain without causing spasmodic attempts at removal. The observer should be seated directly in front of the patient, with the artificial light at the patient's side, and level with the eye. Now seize hold of the patient's tongue gently, but firmly, with the thumb and finger, covered by a napkin, and having placed the small laryngeal mirror in position, that is, in the fauces, with the posterior portion of the mirror resting on the uvula, at an angle varying according to circumstances, endeavor to throw a disk of light from the reflected mirror, (which is placed in front of the patient, at a distance of about twelve inches,) upon the laryngeal mirror, and you will have reflected the vocal cords, and all the surrounding parts. I omitted to mention in the proper connection, that the small mirror should be warmed a very little before being placed in the mouth, to prevent the condensation on its surface of the moisture in the breath.

In cases requiring local treatment, the patient should be taught to hold out his own tongue, in order that the operator may be enabled to introduce the mirror with his left hand, while with the right he applies the brush or other instrument.

The novice will at first be puzzled in diagnosing natural from unhealthy appearances, and it is only by constant practice that we gain a knowledge of the parts, and become sufficiently expert to use the delicate instruments necessary for the removal of tumors in this hidden region.

In the application of remedies to a diseased larynx, we make use of solutions and powders. A camel's-hair pencil; firmly attached to a long handle, bent at an angle varying between 90° and 120°, is used in applying solutions. Acetate of lead, nitrate of silver, and some of the more powerful caustics, are frequently resorted to. A variety of curious and ingenious surgical instruments have been constructed, all bearing the proper curvature, for the purpose of removing tumors, and of performing other operations in this region.

By auto-laryngoscopy is understood the practising of the art upon ones-self. It is made use of by teachers, and those who wish to demonstrate the larynx to others. Much dexterity may be acquired in this way. A very ingenious,

useful and simple method of practising auto-laryngoscopy, consists in placing ones-self in front of a toilet mirror, with the sun shining full upon the laryngeal mirror; the image will then be reflected upon the toilet mirror in front of the observer. I will now endeavor to place myself in such a position that each one of you may in turn pass in front, and obtain a good view of my own larynx.

[Dr. CUTTER now changed his position, and allowed each one of the class, numbering about three hundred, to have a good view of the posterior nares, orifice of the Eustachian tube and larynx, much to the satisfaction of those who had never had an opportunity of witnessing a similar exhibition.—REPORTER.]

## Hospital Reports.

PHILADELPHIA HOSPITAL, }  
November, 1865. }

MEDICAL CLINIC OF DR. J. L. LUDLOW.

Reported by A. M. Shew, M. D., Resident Physician.

### Acute Bronchitis.

Michael R., æt. 71, was taken sick five days ago, while lying out exposed to wet. He was first seized with a chill, followed by a severe pain in the chest and difficulty in breathing.

This, gentlemen, is a case of bronchitis—an inflammation of the mucous membrane lining the bronchial tubes after they branch off from the trachea. When the smaller tubes are affected the disease is commonly called capillary bronchitis, and is attended by more danger. In the early stages of this disease the patient is annoyed by a constant sensation of tickling in the throat, oppression in breathing, hurried respiration, and a paroxysmal cough. This cough is produced by two causes; first, from a want of secretion, and secondly, from excessive secretion.

In acute affections of the bronchial tubes where there is an absence of moisture, you will find the substance of the lung more or less affected. The fever in this affection is usually mild; pulse quick, but soft, called a mucous pulse; expectorations at first clear, but as the disease advances changes to a yellowish sputum; auscultation solicits at first dry—later in the disease moist rales.

The young practitioner is liable to confound bronchitis with acute pneumonia, or pleurisy. To guard you in this matter I will briefly give the deferential diagnosis.

In pneumonia the face is flushed, hot skin, quickened pulse, rapid breathing, and a peculiar expectoration. This glairy, viscid mucous, with an admixture of blood, forms the rusty colored sputum which has been considered pathognomonic of the disorder. When the pneumonia has

become fully established, we find marked dulness on percussion, blowing respiration and bronchophony.

Pleurisy may be distinguished from bronchitis by the characteristic pain and its confinement to one side of the chest; by the absence of respiration, and in the second stage, by the dulness on percussion. If particular attention is paid to the history of the case, and to the physical signs, you will not often be misled.

In the treatment of bronchitis the age of the patient should be taken into consideration. This old man must be sustained, while a tonic course of treatment is pursued. In ordinary cases where you have excessive fever, dry or wet cups, or even a blister may be necessary. You will of course be guided by the condition of your patient at the time. Hot stupes of turpentine often prove serviceable; small doses of the mercurial combined with Dover's powder; citrate of potassa, with some of the expectorants, are admirable preparations. I am in the constant habit of using the following formula with gratifying success:

R. Potass. citras,	℥iv.
Sodæ bicarb.,	℥ij.
Syr. scillæ,	
Syr. senegæ,	℥℥ f.℥ss. M.

In old people the cough may continue long after the inflammation has been subdued, owing to an atonic condition of the whole system. In such cases I have often used with success tincture of opium in some of the expectorant syrups.

#### Pathological Specimens.

Here is the heart and a portion of the left lung of a patient who died three days ago. He was admitted to the hospital on the 26th of October very anemic, weak, and with an immensely distended abdomen. Six months ago he had typhoid fever, from which he never entirely recovered.

When I first saw this patient in the wards, it was very easy to diagnose tubercles in the left lung, and cardiac difficulty. Cod-liver oil was administered in as large doses as the stomach of the patient could bear, but with no avail; the disease had already gone so far that recovery was impossible. And here we have the left lung completely filled with tubercular deposit—some grey, others white—small, hard, and numerous. I will pass the plate around in order that you may all have a good view of this interesting specimen.

You are probably aware that there are no less than ten different theories about the formation of tubercular deposit. I cannot enter into a discussion of this subject, as time is wanting. The theories are all very good, but we do not yet understand the subject. We do know that when tubercular deposit commences it will usually extend, slowly or more rapidly, as the case may be, until the whole lung is broken down and destroyed. I have seen patients recover; but, gentlemen, you will find that in these cases the trouble had been local—in the apex of the lung. The tubercle may for a time remain, as it were, latent—by changing climate, avoiding cold, and finally, by the free administration of cod liver oil many years of happiness and usefulness may be added to the patient's life, who positively has

tubercular deposit in one or both lungs. In this same case you perceive that the valves on the left side of the heart are thickened by an abnormal deposit resembling bone, which in life would cause that peculiar blowing sound heard so distinctly in valvular disease.

#### Second Specimen.

James H., æt. 33, was admitted to the medical wards November 14th, almost moribund with typhoid fever. Owing to the mental condition of the patient we could learn nothing of his antecedent history. He died one day after his admission, with many of the signs of intestinal perforation. Upon examination post mortem, we found the lungs congested, liver fatty, kidneys normal, and the intestines congested, thickened, ulcerated, and in one place perforated; the seat of the lesion being in the ileum, about three inches from the ileo-cæcal valve. You notice, by examining this specimen, that the mucous membrane, lining the bowel for many inches above and below the seat of perforation, is unnatural in color, thickened and hardened with ulceration of the glands of Peyer. In many places it looks as though it was just ready to burst. A few hours before death the patient was excessively prostrated and very cold, with stercoraceous vomiting. This autopsy illustrates the most frequent lesion in typhoid fever.

WILLS OPHTHALMIC HOSPITAL,  
November, 1865.

CLINIC OF R. J. LEVIS, M. D.

Reported by C. R. Morgan.

#### Gonorrhœal Ophthalmia.

Man, æt. 25. This case was presented at the preceding clinic. Then the cornea was not visible on account of the extreme state of chemosis which existed, and the lids were so swollen and rigid that they could not be much separated. On attempting to elevate the upper lid, pus streamed out, and the chemosis, which is a serous distension of the sub-conjunctival cellular tissue, overlaid the cornea in massive folds and bulged out between the lids. At this time, on raising the folds from the cornea, ulceration is evident in an arc along its margin.

The great danger to the eye in this disease is from ulceration of the cornea and its frequent consequence, perforation and disorganization of the eye. Ulceration, as in this case, usually forms a groove at the corneal margin, and this sometimes entirely circumscribes the cornea, thus interfering with the nutrition and destroying the vitality of the cornea, so that it sloughs.

The sub-conjunctival layer of connective tissue of the eyeball does not underlie the conjunctival layer of the cornea, therefore the chemosis terminates at the corneal margin and the effusion causes it to distend in crescentic folds over the cornea. With the object of relieving the serous distension of the sub-conjunctival cellular tissue, I make free incisions through these overhanging folds, in directions radiating from the cornea. These incisions speedily drain the effusion, and



relieve vascular turgescence. I also scarify the conjunctiva of the lids, and the ulcer on the cornea will be pencilled with a solution of the nitrate of silver, gr. iv. to f. 3j. The patient is cautioned against the danger of infecting the other eye by contact with the virulent secretions from the diseased eye.

#### The New Operation for Extraction of Cataract.

Woman, aged 62. It is proposed in this case to perform the operation for extraction of cataract after the method recently suggested and practised by VON GREFE. It is a modification of linear extraction. I believe that the recent improvements in the operation of extraction, increasing, as they have, greatly the percentage of successes, will destine the operation to take, in a great proportion of cases, the place of the slower and less certain needle operations. The varied modifications of linear extraction, according to SCHEUFF, MOOREN, and CRITCHETT, have met with much success in this hospital, and have almost entirely substituted the old large flap operation.

The operation proposed by VON GREFE differs from our usual operations in the incision being made through the sclerotic instead of through the cornea, yet so near to the corneal margin that the wound is entirely in the anterior chamber, the knife almost touching the front of the iris. The instrument used is a cataract knife, which, for convenience in the operation, should be very narrow. It is an object in concluding the cut, to turn the knife backward at its exit, thus forming a small flap in the conjunctiva, so as to secure a valvular closure of the wound. The iris is then drawn out with a blunt hook caught in its papillary margin, and a section removed with the scissors.

I attempted to extract the lens with a blunt hook, as directed by VON GRAEFE, but as the periphery was found to be quite soft, this was impracticable, and the operation is finished with a small scoop. The eye of the patient is naturally small and flat, with a very small anterior chamber, rendering the manipulations difficult.

This operation differs from other extractions performed lately before the class, in the wound being in an upper and outer direction, thus the resulting deformity of the iris is in a portion usually covered by the lid, and opacities, which sometimes occur in the vicinity of the wound, are less likely to interfere with vision. The lids are retained closed by a light adhesive strip, crossing obliquely from forehead to cheek.

#### Traumatic Cataract.

Young woman, aged 18. Received wound in the eye from an awl, five months previously. The wound had penetrated the cornea and lens in the axis of vision, the iris escaping. The injury was not at the time attended with much inflammation or inconvenience, beyond an immediate impairment of vision, as it was inflicted with a slender and sharp-pointed instrument. Wounds of the lens always result, sooner or later, in opacity. If the wound in the capsule is extensive, an entire solution of the body of the lens may take place, leaving only capsular opacity, and in rare cases, the capsule will itself shrivel

up so as to interfere but little with vision. On these facts are based the ordinary operation for cataract by solution—the capsule being freely lacerated, so that it withdraws from the line of vision, and the lens is cut up, so that the aqueous humor has access to it, and undergoes solution and finally absorption.

In this case, the wound being but a small puncture, no such solution could take place. It is the object of an operation in this case to restore vision and remove disfigurement. If this opacity were not relieved by an operation, the eye would in time become atrophied for want of its proper function, and thus the disfigurement would be increased.

The pupil is fully dilated with the sulphate of atropia so as to expose the opaque lens fully to view, and to get the iris out of the way of the instrument. A cataract needle, with sharp cutting edge, is introduced through the sclerotic, about a line from the margin of the cornea, and a little below the axis of the eye. The anterior capsule is freely lacerated, and the lens material cut into fragments. These fragments will undergo solution and absorption within a few weeks. It is possible that the operation may have to be repeated at the end of that time, for the purpose of subdividing some of the larger fragments, to insure their solution. The dilatation of the pupil is continued during the process of absorption, so as to keep the iris from contact with detached and swollen pieces of the lens, which sometimes create irritation by lodging against it.

COLLEGE OF PHYSICIANS AND SURGEONS, }  
New York, November, 1865. }

#### SURGICAL CLINIC OF PROF. MARKEE

##### Scrofulous Synovitis of Wrist.

The patient, a boy about eleven years of age, had whooping cough, and scarlet fever several years ago. His countenance at present is delicate, pale complexion, a general strumous look. Eighteen months ago he began to have trouble in the right wrist-joint, which could not be traced to any injury. There was pain in the joint before it commenced to swell. This is a striking feature of scrofulous disease, when it attacks the cartilages of a joint.

On examining the wrist, it is found considerably swollen, with distinct fluctuation, especially behind and before, and on either side of the styloid process, agreeably to a general rule in all these cases of chronic synovitis, accompanied by effusion of serum into the synovial sac, that the swelling marks itself most prominently in the direction where there is the least pressure or resistance. There is in this case very little tenderness on pressure, and no pain.

*Treatment.* The hand, at first, is to be kept perfectly still, and a blister to be applied immediately over the part. In an old case, like this, there is no danger from the application of blisters. In recent inflammation of the joints, however, there is some objection to their use, when applied immediately over the affected part, as the

irritating effect of the remedy may aggravate the inflammatory action beneath. The blister will be ordered dressed with mercurial ointment, and the hand firmly bandaged. As soon as the effusion has begun to subside, moderate motion of the hand will be necessary. Internally, cod-liver oil and iodide of iron will be given.

#### Hydrocele.—Hæmatocele.

A man, about 48 years of age, presented himself at the clinic with an enlarged scrotum. In the diagnosis of these cases, Prof. MARKOE remarked, we have to distinguish mainly between three forms of disease—sarcocoele, hernia, and hydrocele. If the case were hernia, there would be some indication of enlargement above, in the neighborhood of the groin; hernia would return wholly or partially, if the patient lies down, and there would be impulse on coughing. None of these symptoms are present in this case.

If it were sarcocoele, the tumor would present an irregular surface, would be sensitive on touch, and there would be an absence of all sensation of fluctuation, which is the case here. In hydrocele, we have a smooth distended surface, no sensitiveness, and more or less well-marked fluctuation. Lastly, on examining the tumor of hydrocele by transmitted light, it is generally found transparent. In the present case, however, on examination by transmitted light, the scrotum remains perfectly opaque, although all other signs indicate it to be hydrocele. There are in some of these cases of effusion of fluid into the sac of the tunica vaginalis, two conditions which render this test of transparency unavailable. In some cases the sac has become so thickened that, although it contains serum, it is not translucent. In other cases, the character of the fluid is changed from that of a transparent serum to a dark opaque liquid, in consequence of effusion of blood into the sac. This may occur after the palliative tapping of a hydrocele, by the accidental wounding of a vessel, or by a blow, or other injury.

On making an explorative operation in this case, the fluid contained in the sac is found to be blood, altered by long maceration, forming a species of hæmatocele. The treatment in such cases is a little different from that of simple hydrocele. The serous membrane is generally of much lower vitality and responds very sluggishly to stimulating injections. Hence a strong solution of iodine will be used. If this fails to change the action of the sac, the introduction of lint and establishing suppuration will probably prove successful.

UNIVERSITY OF MARYLAND, }  
November, 1865. }

SURGICAL CLINIC OF PROF. N. R. SMITH, M. D.

Reported by J. W. P. Bates, M. D.

#### Necrosis.

Boy, æt. 17. The term necrosis implies mortification of bone. Bone mortifies like soft parts; perishes from diseased periosteum; often dies, as a result of scrofulous inflammation. Bone is vascular, and invested by a vascular fibrous mem-

brane, called the periosteum, which bears the same relation to bone that bark does to a tree; when a bone is fractured, this membrane is torn. It is also lined by an areolar vascular membrane, which is sometimes called the internal periosteum. This internal membrane is quite sensitive; the medulla itself is not sensitive. The bones are vascular, but depend upon the blood-vessels they receive from the external or internal periosteum. When, by progress of disease, a portion of these membranes is stripped off, the bone perishes, and we have necrosis. We have a familiar example of this in the common felon—matter forms beneath the theca of the tendons, and the bone dies. The long bones are most generally affected. When matter forms between external membrane and the bone, it is very likely to occur on internal membrane also. When the matter is discharged, the patient gets immediate relief, but the bone is dead and is called sequestrum. Its extremities are very irregular, and it is an inevitable result that dead bone will separate itself from the living. It may maintain its form and office, but in course of time it must become detached. For a time, continuity is complete, but after a while it separates, and if no provision were made for such a contingency by nature, we would have spontaneous fracture, and in some rare instances this does occur. The process of repair in these cases is analogous to the repair of fractures. The detached periosteum pours out callus, which surrounds the dead bone. Always suppuration wherever dead bone is present, and there will be fenestra for the discharge of the matter, and through these we can touch the sequestrum, and may introduce strong forceps and extract it. Sometimes it may come out by the efforts of nature alone, but in a great many instances it is necessary to cut down on the callus and chisel away the new bone, and extract the sequestrum, or break it. The cavity will fill up and the external callus will be absorbed to a considerable extent, but there almost always remains some enlargement. Necrosis rarely extends into a joint, because the head and shaft of a bone derive their vascular supply from different points: it is also dependent upon the different points of ossification. When it occurs in cubical bones, as in this case, there is not that vital distinction between extremities and shaft, and is more disastrous in its effects, more likely to penetrate joints, and not so well circumscribed.

Here the astragalus is diseased. On introducing a probe, I think I feel dead bone. We will cut down upon it, and even if it is not in such a condition that we can extract it readily, the incision will give relief by relieving tension, and the loss of blood will deplete the parts of some of their superabundant blood. I do not expect to find a great amount of loose bone. A small piece was extracted. We will have this wound packed with lint, to keep it expanded. Carious bone may be all that is remaining—this corresponds to ulceration of the soft parts—and to counteract this, we will inject with a solution of muriatic acid, from time to time, which will dissolve the earthy matter, and make a salt soluble

in the discharges, and easily got rid of in this way.

Nov. 8. Case doing very well—not so much pain as he had. Seems somewhat weak, so we will order

R. Syr. ferri. iod., gtt. xx., ter die.

Chancre.

Negro, set. 20. Came in day before yesterday; has three chancres—one at the orifice of the urethra, another just behind the corona, and a third on glans penis. Has had them about four weeks; do not feel the hard base as we do when they occur in the loose cellular tissue. The one at the orifice of the urethra may result in stricture, because there will be a cicatrix, and it is characteristic of it to contract. Has a bubo. I consider buboes nothing more than internal chancres, the poisonous matter is absorbed and carried to the glands of the groin, where it collects, and at last breaks and displays nearly all the characteristics of true chancre. Liability to bubo varies according to the location of the chancre; near the frænum most likely to be followed by bubo, because the absorbents are more numerous. He has no eruptions on the skin and no sore throat, which are traits of true chancre.

R. Hydrarg. bichlor., gr. iv.  
Aqua, f. 3iv. M.

Teaspoonful four times a day.

This is one of the best preparations to employ when the disease is protracted; it penetrates more readily than any other, and does not so readily salivate. Touch all the sores with nitric acid, not with the hope of accomplishing an abortive result, but to supplant the diseased action. Use a wash of the bichloride of the same strength as internally administered; fold a piece of linen and place between the glans and prepuce; nutritive diet; keep perfectly still. It is a very unfortunate thing for a person with this disease to keep moving about—excites the parts—the pantaloons chafe the parts, and the circulation is excited. If early symptoms are properly treated, less likely to have constitutional results.

#### Injury of Hand and Forearm.

Man. 35. A few days ago this man's forearm was so much injured that we had to amputate it about the middle. He is now doing well; the lips have receded a little, but when a cicatrix forms they will draw together. It is still tender, and the ligatures have not come away yet. To close the wound we used strips of wet lint instead of adhesive strips—the adhesive plaster often irritates the parts—sometimes more so than sutures. Lint answers the purpose very well, and will bear considerable traction. Use the cold water dressing.

*Punch* has recently informed his readers that *Io dide* of Potassium. *Vanity Fair* told the American world the same thing four years ago; and "Meister Karl" claims that he was the first who discovered a chemical formula in the Bible, where water is correctly described as consisting of Hydrogen and Oxygen in the text, "HO every one that thirsteth!"

## Medical Societies.

### SUFFOLK CO., MASS., MEDICAL SOCIETY.

#### Cholera.

The Suffolk Medical Society held a meeting at their rooms in Temple Place on Saturday evening, Nov. 25th, when the following debate occurred in relation to cholera, as given in the *Boston Post*, Dr. J. MASON WARREN in the chair.

Dr. BUCKINGHAM introduced the subject of Asiatic cholera. He urged strongly the view of the non-contagiousness of the disease, giving his experience on the epidemic of 1847 and 1848. He spoke against quarantine regulations as worse than useless, keeping, as they do, all those on board ship under a continuance of unfavorable influences. He illustrated the non-contagious character of the disease by citing the peculiarities in the case of the cholera-ship "Atalanta," lately arrived at New York, in which it was shown that only those became affected who had been received aboard from an infected district, although there were passengers from several non-infected districts on the vessel.

Dr. BUCKINGHAM complained that the Board of Health of the City Government had not taken action on the advice of the Consulting Board of Physicians, and referred to several notorious nuisances which were suffered to exist, notwithstanding the attention of the authorities had been called to them from time to time. The latter having recognized that as the disease was in their unanimous opinion non-contagious, and could not and does not thrive except in the midst of filth, recommended a thorough cleansing of the city. Dr. BUCKINGHAM desired therefore to bring the subject prominently before the Society hoping that their action thereupon might be effective.

Dr. D. H. STORER strongly urged the necessity of the action of the medical profession towards the City Government, and corroborated the inefficiency of action of the latter.

Dr. JOHN JEFFRIES, chairman of the Board of Consulting Physicians, stated that a report had been drawn up by that Board, embodying the views already expressed on the subject of sanitary measures, which report was now awaiting action in the hands of the Board of Aldermen, and about which, therefore, at present he had but little to say. But, as the chairman of the Consulting Board, he would say that it would be of immense advantage if the united opinion of medical men on this subject could be brought before the public. He stated his belief that the city is now less prepared for the epidemic than it has been on previous occasions of its advent. The result however, of cleansing the city in 1832, was that the mortality from cholera at that time was less than from scarlatina.

Dr. JACOB BIGELOW was satisfied that intemperance of all kinds, moral and physical, low living, vicious habits, poor food, squalor, and in general the excessive privations of the poor, were predisposing causes which furnished the earliest



candidates to the disease. He joined fully in the views of the gentlemen who preceded him in favor of cleanliness and the non-contagiousness of the disease, and traced the history and course of previous epidemics in Asia and Europe to show that the disease does not follow the great thoroughfares. He hoped that the city would do everything necessary, short of establishing quarantines and cordons.

Further remarks were made by Drs. H. R. STORER and WHITE. Finally, Dr. J. B. S. JACKSON, after having emphatically expressed his conviction that filth is a powerful predisposing cause of the disease, proposed the following resolution, which was unanimously adopted:

*Resolved*, That, in the opinion of this Society, *cholera is not contagious*. That the safety of the community, however, depends in a great measure on the regularity of the habits and cleanliness of the dwellings; and, as in former epidemics the disease has prevailed in those localities which were the most crowded and filthy, the propriety of immediate attention to such localities should be strongly urged upon the City Government.

[On further explanation of the above debate, the reporter would add that the report of the Consulting Physician was sent to the Board of Aldermen more than two weeks ago, with a special request that it should be printed as a city document and sent at once broadcast among the people. Inasmuch as it is purely a sanitary matter, and that its object in part was to secure, if possible, the abolition of nuisances that are in themselves most pestilential, the fact that nothing has been heard of it is not a little significant. Are municipal politics of more consequence than the health of the people?]

## EDITORIAL DEPARTMENT.

### Periscope.

#### Resection and Amputation of the Shoulder Joint.

Dr. HENRY F. LYSER, of Detroit, Mich., in the *American Journal of Med. Sciences*, publishes three consecutive cases of resection of the shoulder-joint, and four successful consecutive cases of amputation of the shoulder-joint. He says:

"The simple manner in which the operation for resection of the shoulder may be performed by the single straight incision, with the slightest amount of injury to the soft tissues—rarely more than two small vessels, if any at all, requiring the ligature—and yet the grand results which are obtained for the patient in the preservation of his arm and hand, should, in my opinion, be made to weigh in the balance, when the chances for and against are at all evenly divided." The results of the three cases of resection are very favorable. In one case the patient wrote, ten months after the operation, that his "arm and hand were of great use to him," and "at that time he could bear twenty-five pounds weight in

his hand without hurting his shoulder." His "arm is steadily improving in strength and usefulness." The second patient says, about the same lapse of time after the injury: "I can do my own writing, and can lift twenty-five pounds quite easily. I can raise my right hand to touch my chin, and feed myself, and leave no pain in my shoulder." The third case was accompanied with similar good results."

In regard to amputation of the shoulder-joint, Dr. LYSER prefers the simple method of LARREY, chiefly because the first incision, extending perpendicularly from the acromion process, may be prolonged to the extent of three and one-half or four inches, and the diagnosis fully and satisfactorily determined, and the question as regards resection or amputation definitely settled from a view of, or at least a free entrance to the comminuted parts. In case resection is determined upon, it can readily be performed through this single incision; but if the destruction of the parts is so serious, or extensive, as to demand amputation, the operator will simply begin his oblique incisions an inch below the acromion. These lateral or oblique incisions should be somewhat convex, from the shoulders, to afford sufficient material, so that when the operation has been completed, and the sutures are introduced there will not be too much tension across the middle of the wound. Care should also be observed that the soft parts and integument severed by the last cut of the knife are not divided too far out upon the arm, as in such case there would be a projection downward of a portion of integument. The cicatrix from this operation will be a perpendicular line extending from the acromion down four or five inches.

#### Treatment of Gun-shot Injuries of the Head.

Dr. JOHN ASHURST, Jr., devotes an article in the *American Journal Med. Sciences* to the subject of "treatment of gun-shot injuries of the head." From the history of five cases recorded the following conclusions are drawn:

1. In the large number of cases which die under conservative treatment, it does not appear from the autopsies that the use of the trephine could in any way have averted the fatal issue.

2. Many cases which recover without trephining would be seriously jeopardized by rashly admitting the atmosphere to the torn and bruised cranial contents, and thus placing them in the unfavorable circumstances of an open wound, instead of leaving them in a safer position of a sub-cutaneous, or more strictly "sub-ossous" injury.

3. In those cases which recover after the use of the trephine, the instrument does not deserve the credit of the cure; for if there be already an opening through the skull the operation is unnecessary; and if there be not, it adds to the already serious injury a most dangerous complication.

4. There is a close analogy, though often forgotten, between trephining and the resection of long bones. In compound fractures of the ex-

tremities we extract loose fragments, restore the others as nearly as possible to their proper places ("setting" the fracture), and then trust the case to nature. Just so in compound fractures of the skull, it seems to me, we should content ourselves with removing the detached portions of bone, and restoring the rest if possible, by the elevator, or otherwise, to their proper level, and then withhold our hands; conducting the after-treatment upon physiological and rational principles. Trephining is the most serious and fatal of all resections, and I believe the day will yet come, when it will be looked upon as a matter of curious and antique surgical history, rather than as an actual and established mode of surgical treatment.

#### Moveable Kidney.

The *British Medical Journal* gives a summary of some clinical remarks of TROUSSEAU on moveable kidney, from which we quote:

"There is nothing surprising in this dislocation of the kidney. We must remember the slight attachments which the kidneys have. They are held to the vascular system only by arteries and veins; and the tissue which attaches them to the surrounding parts is only a feeble bond of union. In fact, the only actual bond is the peritoneum, which fixes the organs against the quadratus lumborum; and the peritoneum is certainly not a firm bond of attachment.

Mr. WALTHER's researches show that, in the majority of cases, the symptoms indicative of the affection are very slight. Often, indeed, the existence of the floating kidney is only discovered accidentally. The nature of the moveable body may be generally made out when its existence is ascertained. It is smooth and ovoid, and has, in fact, the shape of a kidney; it is dull to percussion. Careful palpation also may show an absence of the kidney in the corresponding lumbar region. Pressure also, on the moveable body will produce the same kind of pain as it produces on the other kidney *in situ*. A tumor of the liver is not moveable. The spleen, when depressed, is larger than the kidney. But, nevertheless, moveable kidneys have been mistaken for disease of the liver, of the gall-bladder, of the spleen, of the mesentery, of the intestines, and for fibrous disease of the ovary.

As for treatment, all that can be done is to support and protect the displaced kidney. The displacement, it is worthy of note, is far from unfrequent; its nature is very generally misunderstood. The patient is consequently put to much inconvenience through error of treatment, and to much unnecessary mental anxiety, and by keeping the fact of the existence of this affection in his mind the medical man may sometimes save himself from much disrepute and annoyance.

#### The Cause of Cholera.

Dr. CEUNIERE, of Levallois-Courcelles, near Paris, has written to the journals to say that no doubt whatever exists as to the cause of the disease—being nothing else than exceedingly small animalcule of a special kind; oviparous and multiplying with exceeding rapidity. They are sud-

denly formed in the human intestines, where they breed. If the general hygienic state of the patient is strong enough to resist their attacks, they die out immediately, but if the condition of the human body is favorable to their propagation, they soon produce a disorganization, which increases with extraordinary speed, and terminates in the death of the person attacked.

## Reviews and Book Notices.

**The Renewal of Life.** Lectures: chiefly Clinical. By THOMAS KING CHAMBERS, M. D., Honorary Physician to H. R. H. the Prince of Wales; Physician to St. Mary's and the Lock Hospitals. First American, from the third London edition. One royal octavo vol. Philadelphia: Lindsay & Blakiston. 1865. Price \$5.

The publishers of the American edition have deemed it proper to retain the original title, "The Renewal of Life." It is a somewhat strange title for a work on clinical medicine, and its peculiar fitness is not made apparent until the reader has become familiar with the author's views of vital force, and for this reason it is perhaps unfortunate, because ordinarily the title gives us some idea of the work; but in this case the book explains the title.

The work, comprising some six hundred pages, consists of fifty-two lectures. The first two of these are devoted respectively to "Life and Death," "Disease and Cure." These may be considered introductory, and embody the peculiar views of the author, most happily and elegantly expressed; and however we may be inclined to doubt the reasoning of the learned author, we can hardly fail to be pleased by the elegance, scholarly finish, and purity of his style. The key-note of the whole work will be found in the introductory lectures on "Life and Death," "Disease and Cure." "Life," says the author, "rests on the metamorphosis or renewal of the body; as this renewal is more thorough, the individual is more perfect, and fulfils better and more completely the duties of his position."

"The most active metamorphosis of the body possible, the highest possible development of life in every part—is HEALTH.

"The complete cessation of metamorphosis is DEATH.

"The partial cessation, or arrest, is DISEASE."

These aphorisms, striking as they may seem, do but embody the familiar teachings of ordinary experience. Transformation of structure, call it metamorphosis, or what else we may, is the prime necessity of that exhibition of phenomena, which we call life. It is equally true that the fullest manifestation of life must constitute health. The premises are simple enough, but the author's deductions are not at all times equally free from objection. A tendency will be noticed to compare chemico-vital metamorphosis of the living tissue with the mere chemical changes occurring in dead structures, with a view of drawing physiologic deductions and indications for treatment. In comparing fatty degeneration, and adipocire,



the author says, "What is this (adipocire) but precisely that which happens to the diseased muscles of the Indian fakir, or of a paralyzed limb?" Instances of a similar nature will be found scattered through the work.

With the fifth lecture the author opens his Clinical Course, taking as his subject "Typh-fever." The author inclines to the opinion that the poison of typh-fever, which he believes to be generated by decomposing organic matter, and received into the body from without, enters the system *mainly by the digestive canal*. "It is," says he, "probably mixed with the saliva and carried down into the stomach, where it may possibly increase and multiply on the gastric mucus." The author attaches value to the observation that those who by smoking or chewing eject the saliva, are less liable to be attacked during an epidemic. Reasoning thus, the author asserts that the disease may be averted by emptying the stomach, and thus preventing the whole of the poison from being absorbed. "Those," says he, "who have watched my practice, will have noticed several instances of the success of this treatment. *They will have seen the fever cut short, and convalescence entered upon immediately with its characteristics of painless weakness and emaciation gradually passing away.*" The author's favorite plan of treatment, supposing the disease not abated by the administration of a mild emetic is in strict accordance with his ideas of life renewal. It consists of persistent or continuous nutrition. Liquid nutriment is given every two hours, together with twenty minims of the dilute hydrochloric acid of the Pharmacopœia. This liquid nutriment consists of strong beef-tea and milk, of which about six pints are administered in the course of twenty-four hours.

121 cases admitted during the six years after 1857 were treated by this method. The following is the result:

25	are entered as typhus, and of these there died,	0
52	" typhoid "	2
44	" of doubtful or unrecorded type,	2

121 Total. Deaths, 4

Of the 109 cases treated by the ordinary method—or on general principles—the following was the result:

9	are entered as typhus, and of these there died,	4
44	" typhoid "	16
56	" of doubtful or unrecorded type,	3

109 Total. Deaths, 23

These cases occurred during the six years prior to 1857. The author admits the possibility of a change of type in fevers having taken place at the time he changed the treatment, but contends, on the other hand, that the severity of the disease in the two classes differed but little, on account of the near equality of the periods of convalescence. The mean time of stay in the hospital was in the first series 26.7 days, in the second, 29.2 days. The ages differed but little. The mean age of each being between 22 and 23 years.

In commenting upon these figures the author remarks, "I cannot therefore avoid the conclusion that the means employed in the cases on the first list are very efficient in preserving life; and

that out of every 100 persons attacked by continued fever, from 16 to 17 more may be thus saved than by treating them upon general principles."

The remaining lectures are devoted to the usual diseases occurring in a clinical course, such as Rheumatic Fever—Pleurisy—Pneumonia—Phthisis—Pericarditis, and the like, all of which are treated didactically and medically with a continual reference to the Renewal Principle. The treatment, however, in the majority of the cases does not differ materially from that pursued by our own clinical teachers, though here and there a trifling change may be noted, necessitated by the author's views of construction and destruction.

The three closing lectures are devoted respectively to Alcohol—Blood-letting—and Answers to Objections. The great bulk of the lectures are purely clinical, and not much space is allotted to undue pathological speculations, the record and the treatment being the main points kept constantly in view. As specimens of the colloquial style it will be difficult to find their equal in medical literature. But this is by no means their only merit. Their practical teachings claim no less our attention. Both student and practitioner will do well to give these lectures a careful study, for therein they will find accurate guides to diagnosis, and hints with regard to the management and treatment of disease, which, without always subscribing to the author's views of their action they will gladly adopt. The typography of the work is unusually excellent. Those who read much will be pleased with the clear type, large margin, and clean page of this volume, upon which the eye rests without fatigue or pain, while the mind is left free to converse with the author. V.

**On Wakefulness. With an Introductory Chapter on the Physiology of Sleep.** By William A. Hammond, M. D., Fellow of the College of Physicians of Philadelphia, Member of the Philadelphia Pathological Society, etc., etc. Large 12mo., pp. 93. J. B. Lippincott & Co. Philadelphia, 1866. Price \$1.

This monograph by Dr. HAMMOND is based on a recent essay—"Sleep and Insomnia," published in the *New York Medical Journal*. At the solicitation of several friends, who were afraid that the paper might not have so permanent an existence if it depended on that afforded by a periodical, it was re-written, as well as materially enlarged, and tendered to the profession in its present form, with the desire that it might prove a useful addition to medical literature.

It is divided into four chapters, with the following headings—"Introductory; Pathology of Sleep"—"Pathology of Wakefulness"—"Exciting Causes of Wakefulness"—"Treatment of Wakefulness." From this table of contents, it will be seen that the subject is an interesting one; and careful perusal will amply reward the reader. It is therefore commended to the attention of all interested in this department of physiology, with the hope that the desire expressed above by the author will be realized.

## MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, DECEMBER 9, 1865.

### ENLARGEMENT AND INCREASE OF PRICE.

The pressure of literary material on our columns makes it necessary to announce an increase of the size of the *MEDICAL AND SURGICAL REPORTER*. This increase, together with an improved external appearance, will take place from the first of January next; from which time the subscription price will be FIVE DOLLARS per annum. The cost of paper and labor seem to be permanently fixed at high rates, and we are compelled to accept the situation, and graduate our subscription rate accordingly. If these expenses lessen, or a liberal support justify it, we shall be enabled to further enlarge the work, or expend more on the literary department, or perhaps do both.

*All advance payments made prior to January 1st, 1866, will be credited at the present rate of \$4 per annum. Payments made after that date, will be credited at the rate of \$5.*

### ANNOUNCEMENT OF THE FOURTEENTH VOLUME.

THE FOURTEENTH volume of the *MEDICAL AND SURGICAL REPORTER* begins with the first issue of January, 1866, and we take pleasure in announcing that we have effected arrangements that will place it on a better footing in a literary point of view than ever before. These arrangements include some new features, among which are the following:—

A RESIDENT EDITOR FOR NEW YORK CITY, who will attend to all matters of general interest to the profession that emanate from that important medical centre. Full and intelligent reports of the transactions of the two chief medical Societies of New York, viz., the ACADEMY OF MEDICINE, and the PATHOLOGICAL SOCIETY, will appear regularly in our columns. The discussions before these societies are participated in by the *principal Physicians and Surgeons* of that city, and embrace every variety of subject interesting to medical men. Our columns will also be supplied with selections from some of the best clinics held in New York. All medical matters of interest arising in that field, will be independently and freely commented on. This arrangement will give New York and its medical interests a full representation in our columns.

In this city, our editorial arrangements include a chief editor, who devotes himself to the

#### GENERAL EDITORIAL MANAGEMENT

of the work, and to medical matters in this centre of medical education and publication. We

have also engaged the services of one of the most erudite scholars in the ranks of the medical profession to take the special charge of the

#### REVIEW DEPARTMENT OF THE REPORTER.

New works of importance will be *fairly and independently* reviewed at moderate length, but a large part of the issues of the press will be noticed in a series of articles in the form of *Familiar Notes on Books*, or talks about books, that will, as best adapted to our columns, give, in a brief, comprehensive, and attractive form, a general idea of the merits of a work, and its adaptedness to meet the wants of the practitioner of medicine.

Our arrangements in this city also include reports of the Discussions before the *Philadelphia County Medical Society*, and choice selections from the *clinical teachings* in our various hospitals. We also receive select clinical reports from the best sources in Baltimore.

In addition to this, we are publishing many communications of value on *Military Medicine and Surgery*, and expect soon to commence the publication of a series of articles on the *Medical and Surgical experiences of the United States Navy* in the late war.

It will thus be seen that our arrangements are adapted to give to the *REPORTER* a cosmopolitan character. We intend it to be in all respects a *representative journal* of American Medicine and Surgery, and shall spare no pains to make it a credit to our country. The past course of the *REPORTER* has secured for it the largest circulation ever attained by a medical journal in this country, and the present indications are decidedly favorable to an immediate and very large addition to its circulation. This has encouraged us to take the steps announced above toward perfecting our editorial organization, and if these arrangements are received with the favor we anticipate, we shall in due time be enabled to do still more to add to the value of the *REPORTER*.

In view of what has already been accomplished by the *REPORTER*, and of the announcement made above, we unhesitatingly appeal to our readers to exert themselves to extend its circulation, believing that in thus doing they will be subserving the best interests of the profession.

### CENTENARY MEETING OF THE MEDICAL SOCIETY OF NEW JERSEY.

On the fourth Tuesday of January next, will be held at the city of New Brunswick, New Jersey, the regular annual meeting of the Medical Society of that State. The next day will be de-

voted to the celebration, by appropriate exercises, of its *one hundredth anniversary*.

The Medical Society of the State of New Jersey is the oldest *State Society* in the United States, and, we believe, also the oldest medical organization. It was formed by men who were deeply impressed with the responsibilities of the profession to which their lives were devoted. They founded it to promote—by mutual intercourse, communication, and instruction, and by influencing the commonwealth through the means of legitimate concerted action—the interests of a sublime science and a noble art. They were convinced that the true interests of the profession could only be forwarded by uniting all its members in a bond of fraternity, guided by those rules of ethics in intercourse with the community and among themselves, by which a profession becomes respectable, because it respects itself.

The names of the men who, in the year one thousand seven hundred and sixty-six—ten years prior to the Declaration of Independence, in the days when travelling was hard and tedious work, and a journey of fifty miles an *event*—met and formed themselves into a society to promote the interests and advancement of the healing art, should ever be mentioned with veneration, and no less the veterans of the profession yet living, who continued to work in the good cause and bequeathed to us the benefits and blessings of a thorough medical organization.

One of the most interesting features at this coming centenary will be the historical address. Dr. WILLIAM PIERSON has been appointed historian of the Society, and from his intimate knowledge of the past, having been its Secretary for nearly forty years, and representing, we believe, nearly half a century of untired, hard-working self-sacrificing professional life, no one could have been appointed to perform that duty better than he, with whom, we know, it is not a task, but a matter of love.

The address, too, of the President will be awaited with more than the common interest of such occasions. Dr. COLES, who always wields his pen gracefully and thoughtfully, will draw inspiration from the circumstances of an event which, for once at least, justifies the practical mind in leaving the old beaten track of annual medical addresses, and to strew our path with the fairer and innocent flowers of poetry, instead of henbane and nightshade.

And lastly, the dinner will, we doubt not, be not the least of the pleasant features of the Centenary. While the profession of the State will be present almost in a body, there will be among

the invited guests from abroad many of the leading men of our sister States, and of the army and navy, and everybody will be ready to enjoy and make the most of an opportunity which occurs but once in a hundred years, and is the privilege of this favored generation.

#### NITROUS OXIDE AS AN ANÆSTHETIC.

The use of nitrous oxide gas as an anæsthetic in surgery appears to be rapidly increasing in favor. In a number of capital operations, recently performed in this city, it has been satisfactorily used, the anæsthesia being as complete as that from ether or chloroform.

At one of the clinics of the Ophthalmic Hospital, Dr. LEVIS remarked that, in the present state of information in regard to its anæsthetic effects, and with the inefficient means of administration, he thought its applicability to surgery very valuable, but limited. It is yet to be determined whether insensibility from nitrous oxide can safely be prolonged during operations which require much time for their performance. The continuance, too, of anæsthesia while inhalation is effected with the usual tubular mouth-piece, requires the voluntary effort of the patient, which may not always be attainable, especially with children and with persons making resistance under temporary excitement. He believed that it might well displace ether and chloroform in most operations of short duration, and in this class could be included the amputations. A decided advantage, particularly for administration at the clinics, is the rapidity with which anæsthesia is induced, and also the speedy revival of the patient without depression or nausea.

In many operations in ophthalmic practice it is applicable, but for the operation of extraction of cataract its anæsthesia has not the relaxed and tranquil character which is desirable.

The preparation of the gas by decomposition of the nitrate of ammonia by heat, and its subsequent purification, are simple, and the cost is probably not one-fourth that of other anæsthetics.

The present intelligent attention to the subject will soon give a proper appreciation and fix the status of nitrous oxide as an anæsthetic, but we can already, from the present evidence, commend it to practitioners for its safety, agreeableness to patients, rapidity of effects, and economy of use.

For a knowledge of this remarkable agent in all its bearings we refer those who are interested, to the exhaustive monograph on "Nitrous Oxide," by Dr. ZEIGLER, recently published in this city.



## Notes and Comments.

### Change of Type in Disease.

In an editorial communication in the *British Medical Journal* we find the following:

"As for gonorrhœal ophthalmia, it is wonderful how any patient could get over an attack. One sanguinary authority maintained that 'the lancet must be hardly ever out of our reach; for if ever there was a disease in which blood may be taken away without limitation, it is this.' Another gentleman mildly urged:

"'You will deem it necessary to bleed at the outset of the attack most freely; it would be almost criminal to stop the flow of blood until your patient exhibited symptoms of faintness; and as soon as he rallies and the pain returns, the operation should be repeated until syncope is again produced. At the same time, you would prescribe a liberal dose of calomel and jalap, so as to act freely on the bowels, and afterward tartarized antimony in sufficient quantity to maintain a state of decided nausea.'"

When these remedies had produced sufficient debility, nothing more was needed than scarifications of the conjunctiva, "a quantity of leeches" to each lower eyelid, and a blister between the scapulae, etc.

It is certainly to be hoped that in our day disease will not play any more vagaries. What should we do if it ventured some fine morning to return to its former type? It is very unpleasant to be ill in these good times. What must it have been a few years ago? If it be correct to assume the theory of a change of type, because the plague has disappeared in this country and cholera has been introduced, it seems to be a logical conclusion that we are threatened with another revulsion, now that the effects of trichiniasis have become developed.

### Progress of Cholera.

The latest news from Europe are favorable, the advent of colder weather having had a marked influence on the epidemic. From Spain, France, and England, we learn that the disease is everywhere on the decline, and that there is a fair prospect of entire intermission during the winter. As yet the epidemic has not appeared in any part of Germany.

In the city of New York, too, no further vessels with cholera have arrived. All vessels coming, however, from suspicious ports and carrying passengers who have travelled through infected districts or cities are detained sufficiently long to undergo a thorough process of disinfection.

Now while we shall undoubtedly have a few months perfect exemption from cholera let every nerve be strained and our efforts be doubled to bring our cities into a good sanitary state by early summer.

## News and Miscellany.

### How Artificial Teeth are Made.

The artificial teeth manufactory of Dr. S. S. WHITE, in Philadelphia, is the largest and best appointed in the country. We take pleasure in giving our readers a detailed account of the visit lately made by a correspondent of the *Chicago Tribune*:

And now, if the reader is ready, we will accompany him through the apartments devoted to the manufactures. Beginning on the ground floor, we find workmen busy with the crude materials. The feldspar (found abundantly in the State of Delaware,) is thrown in large masses into a furnace, and subjected to a red heat, then plunged into water, which renders it brittle and easily broken by the hammer into small pieces, so that all foreign matters, such as mica or iron, with which it may be mixed, can be separated. It is then washed into a coarse powder, and subsequently ground under water in a mill in which heavy blocks of French burr stone are pushed round on a nether mill stone of the same material until it is an almost impalpable powder—so fine that it will remain suspended in water for a long time. The silex is subjected to the same process.

The colors are long and patiently ground in a mortar and pestle machine, driven, as are the mills, by an eight horse power caloric engine.

The materials are then dried, sieved, and carried to the mixing room, where they are properly proportioned, and again ground in combination into the various mixtures desired. At this stage the body assumes the consistence and appearance of putty; the point enamel of a thick batter, and the outside and gum enamels of cream. The body is now ready for the molders's room, but we must first see how the molds are made. They are made of brass, in two or more pieces, one-half the tooth being represented on either side. Great care is necessary in the construction of these, some of them costing \$75 a pair. On them depends the shape and style of the teeth. They must be anatomically correct, and mechanically perfect. It is not that nature is introducing new styles of teeth as the milliners their novelties, but continual approximation is being made to perfection in imitating the endless minor differences in teeth, and in adapting them to new methods of adjustment to the plates to which they are to be affixed. In this manufactory from 700 to 800 molds are in use, making in all upward of 10,000 shapes of teeth.

Here is a spitefully busy little machine, too busy with one particular process to tell us what it is doing, and yet we discover that it is eating wire and spitting out tiny platina pins at the rate of six hundred a minute. Each comes out headed like a solid head brass pin, with rough indentations in the other end, to be firmly held in the plastic body of the tooth until fierce heat makes the indissoluble union. The strength and infusibility and incorruptibility of the platina makes it the very close companion of mechanical dentistry, leaving the more ornamental utility to gold. Platina is now eight dollars per ounce. The consumption of this metal in this establishment reaches the substantial sum of eighty-six thousand dollars per annum.

We come now to the molding room. Here we see the use of those little platina pins, and are told that there are more than twenty varieties of size adapted to the different sizes of teeth. In each tooth matrix we discover two minute holes which a workman, with rapid tweezers, is fitting with pins of the proper thickness and length, which are to form the future fastening of the tooth to the plate of gold, silver or rubber. The mold is then passed to the next workman, who takes up on a small steel spatula the requisite amount of point enamel, and with this forms the cutting edge of the tooth, and passes the mold to his neighbor, who fills the matrix with body, then closes it. It is then pressed by machinery and deposited in the drying oven.

Carefully watched, it is taken out at the proper moment and emptied of its contents, which, tender and brittle, are laid on clay slides, and subsequently subjected to the process called biscuiting, which is done by bringing them to a cherry red heat. They are now like chalk, and can be out and filed as desired.

The principal materials entering into the composition of mineral teeth are, feldspar, siliceous, or flint, and kaolin, or clay, with various fluxes, so known in chemistry, to be more familiarly characterized as glasses, used to determine the point of fusion desired of different parts of the tooth. The general tone or tint of these materials is a white or dusky yellow, so that coloring forms a prime adjunct in the process.

The chief coloring substances are titanium for yellow, platina sponge for gray, blue oxide of cobalt for bright blue, and oxide of gold for red. These with others in varying combinations are used to color the body, point and outside enamels, and to form some idea of the immense varieties of shades or grades of color capable of being produced, you have only to be told that there are more than forty kinds of colors in the bodies used, and an equal number of point and outside enamels. Thus starting with the lightest shade of body known as "A," you may produce forty different grades by using a different point enamel, and on each of these a different effect by the use

of various outside enamels, so that with a single body of any one color you may produce 64,000 varieties or gradations of color, and there being thirty-nine other bodies, a smart calculator can determine of how many changes they are capable.

It is not pretended, of course, that all these shades are produced, but some idea may be formed of the need of variety by the fact that out of myriad trials in the way of combinations, one hundred and thirty standard shades are made duly arranged and classified by numbers, forming a gradual but quite perceptible progression from the most delicate blue white to the dark tobacco stained, and for the production of these colors you are not to think of a dyer's vat, but to remember that their bath is a glowing muffle at incandescent heat.

From the biscuiting furnace they are carried to the assorter's room, where they are arranged in sets, and after this the members of a set keep company through all their varied experience. This work is done by small boys, whose quickness of perception qualify them for the work, and who become so expert that they know every tooth and the number of the mold from which it came, as well as they know each other. Arranged in rows in tin waiters, the teeth are now forwarded to the trimmers' room, where the busy fingers of forty tidy and happy looking young ladies smooth them into readiness for the enamelers' room. This also furnishes employment for fair fingers. The enamels are laid on with a brush, and is a work requiring delicacy and care. Having received their coats of enamel, the teeth, descending again toward the ground floor, from which they started, halt in another room to receive the gum enamel, which, when the fire shall have passed its verdict upon them, will reflect the rosy cheeks of the artist who laid it. But, taking up the line of march, they are again halted that other light fingers, the owners of which are called finishing-trimmers, may remove any surplus of enamel from the sides, make true, with fine pointed instruments, the arch of the gum, and lay them carefully on beds of quartz sand in trays of fire-clay, ready for the fiery trial through which they are to pass, and without which they are unfit for life's work.

Beyond this no tool can follow them. Imperfections heretofore could be repaired, but in the future beyond the fire, the tooth is either perfect or a failure irremediable. The furnace is an institution entitled to respect for its intensity. In its centre is a muffle of fire clay, entirely surrounded by the glowing fuel, a charge of half a ton's weight of coal, itself carefully bricked up before firing, that no impurities of dust or vapor shall reach the teeth. Take out the small half oval door of the muffle, and you shall see an inner glow the eye shrinks from registering, an incandescence that startles you by its fervor. In from fifteen to thirty minutes teeth and fire-clay slide, glowing like the oven, are taken out done

and finished. The dull enamel has become as glass; the lusterless oxides have yielded their color, and the tooth that went in friable and brittle, has come out adamant. But there is an intermediate skill, the acquisition of which is one of the marvels of the mechanic arts. A little too long in that heat and the teeth are ruined, and the evils of "underdone" are equally to be guarded against, as in the housekeeper's baking. It is a trained judgment, a skill of eye and handling that enables the burner to lend success to the work of those who have gone before him and at the precise point where a shade of failure is utter ruin.

The teeth are now done and ready for the curious characteristic red-wax cards on which they go into the trade. We have not time to describe the minor processes of preparing color, fluxes, oxides, etc., nor to speak of the manufacture carried on in one of the large rooms, of corundum wheels used by the mechanical dentist in grinding teeth to fit the plate.

In one of the rooms anvils were singing and files at work on some of the smaller steel implements of the dentist, but these are only a part of that branch of the business of the house, which gives exclusive employment to an extensive manufactory in another part of the city, whence the iron and steel in the rough come forth in all the glittering multifarious forms that send a shudder through the observer who looks at the dentist's well filled case.

The processes we have described in Dr. WHITE'S establishment, joined to the employment given in his sale rooms, packing rooms, and counting rooms, give employment to over two hundred persons, with a pay roll of between two and three thousand dollars per week, and a product of four hundred thousand teeth per month.

And so passed the morning at the Arch-street establishment.

It is known of dentists throughout the world, and for eighteen years has been taking on those stages of progress that, like its completed teeth, are enameled securely with the success of high-toned dealing and unblemished reputation as to wares and principles. Dr. WHITE was of that class of Philadelphians whose fidelity to loyalty and liberty no trade considerations have ever shaken, throughout the years preceding the war, and in its dark hours, when the patriotism of leading men in business enterprises stood the country in good stead.—*Scientific American*.

#### The Proportion of the Sexes Born.

Mr. BUCKLE, in his History of Civilization shows from a careful examination of the statistics of births in different countries that the proportion of boys and girls born is as twenty-one of the former to twenty of the latter, and that no deviation from this rule can be found in a series of years. This ratio is shown to be correct in the latest published returns of births in the State of Massachusetts, where the registry shows 105 boys

to 100 girls. There is, unfortunately, no system yet devised by which the national census can show the actual number of births in the United States, but by observing the returns of the number of males and females under one year of age, we can arrive at it approximately. According to the census of 1860, there were 409,914 white male children under one year of age, and 397,527 females, or 103 males to 100 females. The following table shows the ratio of the sexes of all ages in the several States of the Union, according to the census of 1860, and in those foreign countries whose census returns are accessible to us.

	Males.	Females.
Alabama.....	270,190	256,081
Arkansas.....	171,477	152,666
California.....	259,923	98,187
Connecticut.....	221,851	229,653
Delaware.....	45,940	44,649
Florida.....	41,128	36,619
Georgia.....	301,066	299,484
Illinois.....	898,941	805,350
Indiana.....	693,348	645,362
Iowa.....	353,900	319,879
Kansas.....	58,806	47,584
Kentucky.....	474,193	445,291
Louisiana.....	189,648	167,808
Maine.....	316,527	310,420
Maryland.....	256,839	259,079
Massachusetts.....	592,231	629,201
Michigan.....	388,006	348,136
Minnesota.....	91,704	77,691
Mississippi.....	186,273	167,626
Missouri.....	563,131	506,358
New Hampshire.....	159,563	166,016
New Jersey.....	322,733	323,966
New York.....	1,910,279	1,921,311
North Carolina.....	313,670	316,272
Ohio.....	1,171,698	1,131,110
Oregon.....	31,455	20,700
Pennsylvania.....	1,427,943	1,421,316
Rhode Island.....	82,294	88,355
South Carolina.....	146,160	145,140
Tennessee.....	422,779	403,943
Texas.....	228,585	192,306
Vermont.....	158,406	155,963
Virginia.....	528,842	518,437
Wisconsin.....	406,309	367,384
Total.....	13,685,834	13,004,372
	Males.	Females.
France.....	18,641,276	18,741,037
England.....	8,781,225	9,146,384
Scotland.....	1,375,479	1,513,263
Ireland.....	4,016,536	4,152,071
Netherland.....	1,498,676	1,557,971
Belgium.....	2,196,594	2,173,679
Sweden.....	1,687,248	1,795,293
Norway.....	729,905	760,142
Denmark.....	692,440	715,307
Schleswig.....	170,726	183,174
Holstein.....	241,644	230,720
Spain.....	7,670,671	7,793,407
Sardinia.....	2,072,707	2,053,028
Papal States.....	1,599,729	1,524,449
Upper Canada.....	497,664	451,020
Lower Canada.....	444,893	437,749
Total.....	52,293,343	53,235,687

It thus appears that there were, in 1860, 681,462 more males than females in the United States, and 942,344 more females than males in the other countries enumerated. The discrepancy between the ratios in the United States and Europe is fully accounted for by the statistics of emigra-



tion, the excess of male over female passengers arriving in this country from foreign ports from the year 1819. to 1860 being 942,068.—*Chicago Tribune.*

#### The Cholera in England.

The British Registrar-General, in his return for the past quarter, just issued, says:

"In the face of the cholera epidemic, which is gathering in threatening clouds around us, the deaths from that disease, and from the allied diarrhoea, deserve careful study. Ever since 1837, when the cause of death were first registered, a certain number of deaths from cholera have been recorded. Such cases, often called English—but more properly summer cholera, as they are met with all over Europe—prevail chiefly during July, August, and September. One hundred and thirty-six cholera deaths were registered in London; and in this quarter's notes a certain number are mentioned by the registrars in every division except the North Midland. One case at Wilsden, in Yorkshire, was registered Asiatic cholera, and another in the Rillington sub-district, fatal in twenty-four hours, presented all the features of Asiatic cholera. All such cases are of ordinary occurrence, and are inexplicable only by those who deny the spontaneous origin of sporadic cases.

"The number of cases at Southampton since the end of the quarter leaves no doubt of the appearance of the epidemic form of cholera, which may either pass over England, or develop in the course of the next twelve months its usual destructive tendency. It is gratifying to know that London and some of the other large towns are now in a far better condition to encounter the epidemic than they were either in 1848—49, or in 1853—54."

#### Valuable Scientific Gifts.

NICHOLAS PIKE, Esq., of Brooklyn, has recently presented to the Long Island Historical Society, a splendid collection of algae, a costly herbarium of ferns, and one of zoophytes, and a collection of nearly all the birds of Long Island. These plants and birds have cost him the labor of more than twenty five years as an enthusiastic devotee of Natural Science.

These ferns contain nearly all those found on Long Island, and a large and beautiful collection brought from Portugal, made while resident there for several years as our Consul-General. The zoophytes belong to the family of corals (animal plants) of the fourth division of the animal kingdom, and contain nearly all the recognized species found in the Bay of New York and around Long Island.

The algae are of three orders (the technical names we do not give), red, green, and olive. Mr. PIKE began his collection more than twenty-five years ago, on the coasts of Maine and Massachusetts, and continued the work, as opportunity offered, down to South Carolina. He then instructed shipmasters and others visiting the coast of South America and California in gathering the rough weeds, till his specimens have been brought from a sea-coast of some 20,000 miles.

In 1849 or 1850, Prof. HARVEY, of King's College, Dublin, was requested by the Smithsonian Institute to write a work on the Algae of America. The result was three volumes (folio) elaborately illustrated. Mr. PIKE opened his herbarium to Prof. HARVEY, and the late lamented Prof. J. W. BAILEY, of West Point, and with both of these scholars, at their request, continued to correspond, and to exchange plants for a period of over ten years. Prof. BAILEY was one of the best microscopists and naturalists of America or of any country.

In 1853 or 1854 Mr PIKE went out to Portugal as Consul, under Mr. Webster as Secretary of State, and during six years there opened a correspondence and exchange with many of the best naturalists of Europe. The algae alone comprise some ten or twelve portfolios, and all the specimens are beautifully prepared and pressed. It is probably the largest and best collection in America, and contains many thousand specimens. \$10,000 could scarcely have procured so valuable a collection as this donated by Mr. PIKE to the Society.

#### Phenic Acid as an Antiseptic.

Experiments have been made to show that the miasmata from putrefying substances may be rendered harmless by means of phenic acid, since it prevents or puts an end to spontaneous fermentation. A piece of perfectly fresh meat was placed within about two yards of one in a state of putrefaction. In eight days it was found merely to have begun to dry, the phenic acid had destroyed the miasmata, so that they were not transmitted by the air. It has been concluded, from these and similar results, that phenic acid is a powerful anti-pestilential agent, and it is considered extremely useful in places where cholera or other infectious maladies prevail.

#### Preparation of Fluid Extracts.

At the recent (thirteenth) Annual Convention of the American Pharmaceutical Association, held at Boston, Dr. E. SQUIBB read an important paper on the preparation of fluid extracts, and a modification of the official process, which he has submitted to the action of the Committee of Revision. The modified process is thus stated by the *Druggist's Circular*:

"Sixteen ounces of a drug, as for instance colchicum, are to be percolated with alcohol of appropriate strength, adding one pint, and as soon as the alcohol disappears from the top, water is added till fourteen fluid ounces of percolate are obtained; this constitutes the fluid extract; there is to be no evaporation and no excess of alcohol added, and the fluid extract is as strong and a great deal cheaper than if a gallon had been passed through it and evaporated down to a pint. Dr. SQUIBB also finds that fluid extracts prepared either by this process or by that of the Pharmacopoeia are relatively stronger than the drugs from which prepared; while they are perhaps twice as efficient as the majority of those sold by the leading manufacturers."

**Pension Examining Surgeons.**

The following are recent appointments:

*Ohio.*—Dr. A. B. Monohan, Jackson Court House.

*Tennessee.*—Dr. Jos. H. Van Dusen, Chattanooga.

**A New Blow-Pipe.**

A novel blow-pipe is thus described: "Hendy's blow-pipe consists of an ordinary blow-pipe nozzle supplied from an india-rubber bag. The main portion of the blow-pipe has a flexible mouth-piece, connected with the bag by a joint, at which a valve is placed, which is opened when the operator blows, and closes immediately when he ceases. By this arrangement the little bag or bladder is readily filled at a single breath, and with very little exertion. When so filled, a continuous current of air is forced from the nozzle of the pipe by the mere contractive force of the bag. This is easily turned in any direction as required, by means of the flexible tube to which it is attached."

**To be Mustered Out.**

The following surgeons and assistant surgeons of volunteers are mustered out of service in accordance with instructions to that effect

*Surgeons.*—Samuel D. Turnley, H. Earnest Goodman, F. G. Porter, A. B. Campbell, George L. Sutton, J. R. Ludlow, S. E. Fuller, Bernard A. Vanderkeift, G. B. Parker, John S. McGrew, E. J. Whitner, Milton B. Cochran, John O. Bronson, A. P. Dalrymple, Benjamin B. Wilson, Thos. W. Fry, Thomas S. Thomas, John H. Phillips, Oliver A. Judson, Binkitt Cloak, Charles O. Leavy.

*Assistant Surgeons.*—D. Williams, Franklin Grube, Daniel R. Brown, Aaron J. Comfort, Robert McGowan, J. H. Dougherty, J. Bernard Brinton, J. P. Dowling, J. A. White, Joseph W. Hayward, William A. Cyndan.

The death of the fattest man in the world, M. HELM, is recorded. He was German by origin, and employed in Paris as translator of foreign correspondence. His age was 42; he weighed 500 pounds, and latterly was unable to pass through doors of ordinary dimensions.

**MARRIED.**

*ARNOLD—ROSS.*—At Jefferson, Pa., by Rev. Geo. Fraser, Nov. 21st, Guyan L. Arnold, M. D., and Miss Hannah E. Ross daughter of Thos. Ross, Esq.

*MACGREGOR—RUTTER.*—On Thursday, Nov. 23, at the Church of the Incarnation, New York, by Rev. Dr. Chauncy, James R. Macgregor, M. D., and Alice E., daughter of Mrs. Agnes Rutter of Yorkville.

*MOORE—LANDIS.*—On the 28th ult., by the Rev. D. H. Barron, Dr. Thomas J. Moore, and Cornelia T., daughter of Dr. J. A. Landis, both of Hollidaysburg, Pa.

**DIED.**

*ADAMS.*—In Brooklyn, N. Y., Nov. 15, Dr. Julius W. Adams, U. S. A.

*LOVERIDGE.*—In Brooklyn, Nov. 30, Dr. A. Loveridge, aged 77 years.

*PHOENIX.*—Suddenly, at Morristown, N. J., on Thursday, Nov. 30, Lewis Phoenix, M. D.

*TAYLOR.*—In this city, Nov. 27, Dr. John E. Taylor, in the 46th year of his age.

*TOWNER.*—In New York, Dec. 1, Agnes R., wife of William A. Towner, and daughter of Washington Ritter, M. D., aged 21 years.

*UHLER.*—In this city, Nov. 27th, at his residence, on School-house lane, Wm. M. Uhler, M. D., aged 45 years.

**OBITUARIES.****Dr. John Lindley.**

The death is announced of JOHN LINDLEY, M. D., F. R. S., whose name has for many years past been intimately associated with the progress of botanical science. He was born at Catton, near Norwich, England, in 1790, and was the son of a nursery-garden proprietor there. He died of apoplexy.

His literary effort after devoting much of his early youth to the practical details of the science of botany, was the translation of Richard's "Analyse du Fruit," from the French, and the contribution of some papers to the transactions of the Linnean Society. After that he proceeded to London, where he was engaged by Loudon to assist in the production of the "Encyclopaedia of Plants." In 1832 he published his "Introduction to Systematic and Physiological Botany," but his *chef d'oeuvre* was the "Vegetable Kingdom," which gives a comprehensive view of the structure and uses of the plants of the known world. For more than a quarter of a century Dr. Lindley filled the chair of botany at University College, and in 1860 was appointed examiner in the University of London. He was fellow of the Royal, Linnean, and Geological societies, and corresponding member of many continental and American learned bodies. In 1855 he received the medal of the British Royal Society, in reward of his services to the modern sciences.

**Dr. T. C. Madison.**

Dr. T. C. MADISON, formerly of Lynchburg, Va., dropped dead last week in the cars between St. Louis and Aton. He was a nephew of President Madison, and served in the United States Army as surgeon during the Florida and Mexican wars. When the war broke out he resigned his commission and was appointed medical director of General Magruder's army, on the Peninsula. During the last three years of the war he was the medical inspector of the rebel hospitals in Virginia and Tennessee. He was second in rank in the medical department of the rebel army. He had just received his pardon when he died.

**Dr. William Irvin.**

The latest news from China announces the death of Dr. WILLIAM IRVIN, the United States Consul at Amoy. It is intimated that his sickness was induced by his professional labors among the Chinese during the prevalence of cholera. Dr. Irvin formerly resided at or near Harrisburgh, Penn., and was highly esteemed.

**ANSWERS TO CORRESPONDENTS.**

*Dr. A. D. B., Bowmansville, Pa.*—We know of no better work on diphtheria than that of Slade. Price \$1.25. For price of Visiting List, &c., see second page of cover, under "Communications."

*Dr. C. W. R., N. J.*—Of course! All payments made before Jan. 1st, 1886, will be credited at the rate of \$4 a year, no matter to what amount. All payments made after that date will be at the rate of \$5 a year.

To several Correspondents.—We are now able to inform correspondents where they may obtain Jarvis' Adjuster.

**METEOROLOGY.**

November	27,	28,	29,	30,	D. 1,	2,	3.
Wind.....	N. W.	N.	N.	W.	W.	S. W.	S.
	Clear.	Clear.	Cl. dy.	Clear.	Clear.	Clear.	Clear.
Weather.....							
Depth Rain.....							
Thermometer.....	26°	24°	24°	24°	27°	26°	27°
At 9 A. M.....	35	35	33	34	42	39	49
At 12 M.....	39	45	37	47	44	52	58
At 3 P. M.....	40	41	37	47	42	53	57
Mean.....	35.00	36.25	32.75	38.00	38.75	42.50	47.75
Barometer.....							
At 12 M.....	30.2	30.3	30.	29.8	29.7	30.	30.2
Germanstown, Pa.							

B. J. LEBMON.